

CLAIMS

What is claimed is:

- 5 1 A method for the delivery of secure software license information to authorize use
of a software product, the method comprising the steps of:
- (a) associating with a software publisher a private and public key pair, wherein
the software publisher provides the software product and includes a
software program and an authorization program within the software product;
 - 10 (b) associating a product private and public key with the software product, and
including the product private key with the authorization program;
 - (c) upon invocation of the software product on a computer,
 - (i) generating by the authorization program a license request containing
user and product information,
 - 15 (ii) digitally signing the license request with the product private key, and
 - (iii) transferring the signed license request to a key authority,
 - (d) in response to the key authority receiving the signed license request,
 - (i) generating a license using data extracted from the license request
and license terms,
 - 20 (ii) signing the license with the publisher private key, and
 - (iii) transmitting the signed license to the authorizing program; and
 - (e) validating the signed license using the publisher public key, and using the
license terms to control the use of the software product.

- 2 The method of claim 1 further including the step of providing the publisher public key as a certificate.
- 3 The method of claim 2 further including the step of providing the product public key as a certificate.
- 5 4 The method of claim 1 further including the step of providing the license in a data exchange format.
- 5 The method of claim 4 further including the step of using XML as the data exchange format.
- 6 The method of claim 1 further including the step of using the license returned from the key authority to deliver additional key information to the computer.
- 10 7 The method of claim 1 wherein step (d) further includes the step validating the license request using digital certificates.
- 8 The method of claim 1 wherein step (e) further included the step of validating the license response using digital certificates.
- 15 9 The method of claim 1 wherein step (e) further included the step of validating the license using the product information in the license, including product ID and publisher ID.
- 10 The method of claim 9 further including the step of transferring license terms to a separate security device for controlling the use of the software product.
- 20 11 The method of claim 1 wherein step (e) further included the step of preventing use of the software product on a different computer than that used to generate the license request by using a machine fingerprint embedded in the license.
- 12 A method for the delivery of secure software license information to authorize use

of a software product, the method comprising the steps of:

- (a) associating with a software publisher a private and public key pair, wherein the software publisher provides the software product and includes a software program and an authorization program within the software product;
- (b) associating a product private and public key with the software product, and including the product private key with the authorization program;
- (c) upon invocation of the software product on a computer,
 - (i) generating by the authorization program a license request containing user and product information,
 - (ii) encrypting the license request with the product private key, and
 - (iii) transferring the encrypted license request to a key authority;
- (d) in response to the key authority receiving the encrypted license request,
 - (i) decrypting the license request with the product public key
 - (ii) generating a license using data extracted from the license request and license terms,
 - (iii) encrypting the license with the publisher private key, and
 - (iv) transmitting the encrypted license to the authorizing program; and
- (e) decrypting the license using the publisher public key, and using the license terms to control the use of the software product.

13 The method of claim 12 wherein step (e) further includes the step of verifying the license using the product information, including the product ID and publisher ID.

14 The method of claim 13 further including the step of transferring the license terms to a separate security device for controlling the use of the software

product.

15 The method of claim 12 wherein step (e) further includes the step of preventing
use of the software product on a different computer than that used to generate
the license request by using a machine fingerprint embedded in the license.

5 16 A method for the delivery of secure software license information to authorize use
of a software product, the method comprising the steps of:

(a) associating with the software product to be authorized an authorization
program and a set of certificates, including a publisher certificate, a product
certificate, wherein each certificate contains a public key and is associated
10 with a private key of a public/private key pair;

(b) upon invocation of the software product on a computer, generating by the
authorization program a formatted license request containing user and
product information, signed using the private product key;

(c) transmitting the license request to a key authority in conjunction with a
15 financial transaction;

(d) generating by the key authority a formatted license that includes license
terms, and user and product information extracted from the license request,
wherein the license is signed with the publisher private key associated with
the publisher certificate;

20 (e) transmitting the signed license to the authorizing program; and

(f) validating by the authorization program the license using the publisher and
certificate authority certificates and the user and product information
contained within the license document, whereby the validation using the

publisher and certificate authority certificates establish a trusted link back to the certificate authority and;

(g) using the license terms to control the use of the software product on the computer.

5 17 The method of claim 16 further including the step of formatting the license request and license documents using the proposed signed XML standard definition.

10 18 The method of claim 16 further including the step of signing the product certificate using the publisher's private key, and signing the publisher certificate using the certificate authority's private key, thus establishing a trusted link from the product certificate back to the certificate authority

15 19 The method of claim 16 further including the step of signing the license request using the product private key, and including within the license request the product certificate.

20 20 The method of claim 16 further including the step of including financial transaction information within the license request

25 21 The method of claim 20 further including the step of including financial transaction information within the license response.

30 22 The method of claim 16 wherein step (g) further includes the step of transferring the license terms to a separate security device for controlling the use of the software product.

35 23 The method of claim 16 wherein step (g) further includes the step of preventing use of the software product on a different computer than that used to generate the license request by using a machine fingerprint embedded in the license.

24 A method for generating and validating a software license for a software product published by a software publisher for the purpose of authorizing use of the software product, the method comprising the steps of:

(a) receiving, by the software publisher, a publisher certificate issued from a certificate authority , wherein the publisher certificate includes a publisher ID;

(b) embedding the publisher ID within the software product to be authorized;

(c) in response to receiving a license request to authorize use of the software product, signing by the software publisher the license for the software product using a private key associated with the publisher certificate, wherein the publisher certificate is included as part of the signature, such that

the license for the software product can be validated by, by,

(i) validating the publisher certificate using a certificate authority certificate,

(ii) validating the signature and contents of the license based on the validated publisher certificate, and

(iii) validating the software publisher who signed the license by comparing the publisher ID in the publisher certificate contained within the license with the publisher ID in the software product; and

(d) using the validated license contents to control the use of the software product.

25 The method of claim 24 further including the step of embedding a product ID within the software product and within the software license.

26 The method of claim 25 further including the step of validating the license by
comparing the product ID stored in the license with the product ID stored within the
software product.